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EXAMINER

RENNER, CRAIG A

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/607,685

Applicant(s)

BUDDE ET AL.

Examiner

Craig A. Renner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 26-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-19 and 26-33 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>13 August 2003</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of "claims 1-19 (Group I)" and cancellation of non-elected "claims 20-25 without prejudice" in the reply filed on 14 April 2005 is acknowledged.

Drawings

2. The drawings are objected to because of the following informality:

In FIG. 3B, reference sign "372" should be changed to --370-- in order to be consistent with the remainder of the disclosure.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

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pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
4. The disclosure is objected to because of the following informalities:
 - a. In line 23 on page 7, "disc 312" should be changed to --disc 310-- in order to be consistent with the remainder of the disclosure.
 - b. In line 16 on page 8, "interconnect assembly 324" should be changed to --interconnect assembly 344-- in order to be consistent with the remainder of the disclosure.
 - c. In line 14 on page 10, step "(414)" should be changed to step --(412)-- in order to be consistent with the remainder of the disclosure.
 - d. In line 15 on page 10, step "(412)" should be changed to step --(414)-- in order to be consistent with the remainder of the disclosure.
 - e. In line 2 of claim 16, the limitation "the top layer comprises steel" has already been set forth in line 1 of claim 16.

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f. In line 2 of claim 30, the limitation "the top layer comprises steel" has already been set forth in line 1 of claim 30.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 4-6, 8-11, and 26-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Many elements in the claims are indefinite because they lack clear and/or positive antecedent basis including "the laminate materials" (line 1 of claim 4) and "The system" (line 1 in each of claims 8-11).

b. In lines 7-8 of claim 26, "an interconnect circuit mounted between at least a portion of the bottom layer and core layer" is indefinite because it is misdescriptive of the disclosure, which teaches/shows an interconnect circuit **344** mounted between at least a portion of a top layer **370** and a base plate **378**. See FIG. 3A, for instance.

c. Claims 5-6 and 27-33 inherit the indefiniteness associated with their respective base claims and stand rejected as well.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-3, 7-8, 12-13, 15, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kant et al. (US 4,670,804).

With respect to claims 1-3, Kant teaches an apparatus comprising a load beam (includes 50, for instance); a trench arrangement (between 40 and 42) on the load beam; and a circuit (80) housed within the trench arrangement (as shown in FIG. 2, for instance) [as per claim 1]; wherein the apparatus further includes a plate (36) coupled to the load beam, wherein the circuit is between the load beam and the plate (as shown in FIG. 2, for instance) [as per claim 2]; and wherein the load beam is made from a laminate material (includes 50, 40 and 42, for instance) [as per claim 3].

With respect to claims 7-8, Kant teaches a disc drive comprising a rotating disc (12) having an inner and outer diameter (as shown in FIG. 1, for instance); a suspension assembly (30) for supporting a head (33) over the disc, the

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suspension assembly having a load beam (includes 50, for instance) comprising a laminate material (includes 50, 40 and 42, for instance); a trench arrangement (between 40 and 42) formed in the load beam; and a circuit (80) housed within the trench arrangement (as shown in FIG. 2, for instance) [as per claim 7]; wherein the drive further includes a plate (36) coupled to the load beam, wherein the circuit is between the load beam and the plate (as shown in FIG. 2, for instance) [as per claim 8].

With respect to claims 12-13, 15, and 18, Kant teaches a suspension assembly comprising a base plate (38); a load beam (includes 50, for instance) mounted to the base plate and having a length, the load beam comprising a laminate material (includes 52, 50, 40, and 42, for instance), the laminate material having a bottom layer (includes 52, for instance), a top layer (includes 40 and 42, for instance), and a core layer (includes 50, for instance) positioned between the top and bottom layers (as shown in FIGS. 3-4, for instance), the load beam further comprising a trench (between 40 and 42) formed in the laminate material and extending along at least a portion of the length of the load beam (as shown in FIG. 2, for instance); and an interconnect circuit (80) mounted to the load beam in at least a portion of the trench (as shown in FIG. 2, for instance) [as per claim 12]; wherein the load beam is secured to the base plate at the bottom layer of the laminate material (as shown in FIG. 3, for instance) [as per claim 13]; wherein the interconnect circuit includes a first portion and a second portion (as shown in FIG. 3, for instance), and the load beam further comprises an exposed primary surface and a leeward edge (as shown in FIG. 3,

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for instance), the first portion being mounted in the trench, and the second portion extending along the leeward edge of the load beam (as shown in FIG. 3, for instance) [as per claim 15]; wherein the interconnect circuit is a flex-on-suspension circuit (as shown in FIG. 3, for instance) [as per claim 18].

9. Claims 1-4, 7-9, 11-13, 15-19, 26-27, 30, and 32-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Endo et al. (US 5,696,651).

With respect to claims 1-4, Endo teaches an apparatus comprising a load beam (41); a trench arrangement (between each 52) on the load beam (as shown in FIGS. 6A and 6B, for instance); and a circuit (47) housed within the trench arrangement (as shown in FIGS. 6A and 6B, for instance) [as per claim 1]; wherein the apparatus further includes a plate (46) coupled to the load beam, wherein the circuit is between the load beam and the plate (as shown in FIG. 6B, for instance) [as per claim 2]; wherein the load beam is made from a laminate material (as shown in FIG. 6B, for instance) [as per claim 3]; and wherein the laminate material includes a bottom steel layer (42), a core polyimide layer (53 and/or 48), and a top steel layer (46 or 52) [as per claim 4].

With respect to claims 7-9 and 11, Endo teaches a disc drive (31) comprising a rotating disc (35) having an inner and outer diameter (as shown in FIG. 4, for instance); a suspension assembly (includes 41, for instance) for supporting a head (44) over the disc, the suspension assembly having a load beam (41) comprising a laminate material (as shown in FIG. 6B, for instance); a trench arrangement (between each 52) formed in the load beam; and a circuit

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(47) housed within the trench arrangement (as shown in FIGS. 6A and 6B, for instance) [as per claim 7]; wherein the drive further includes a plate (46) coupled to the load beam, wherein the circuit is between the load beam and the plate (as shown in FIG. 6B, for instance) [as per claim 8]; wherein the laminate material includes a bottom steel layer (42), a middle polyimide layer (53 and/or 48), and a top steel layer (46 or 52) [as per claim 9]; and wherein the load beam comprises a gimbal portion (adjacent 43), a bend section (between 43 and 45), and a base portion (adjacent 45), the gimbal portion supporting the head and the bend section being positioned between the base portion and the gimbal portion (as shown in FIG. 6A, for instance), and the trench arrangement includes a trench that extends from the bend section and through at least a part of the base portion (as shown in FIG. 6A, for instance) [as per claim 11].

With respect to claims 12-13 and 15-19, Endo teaches a suspension assembly (includes 41, for instance) comprising a base plate (50); a load beam (41) mounted to the base plate and having a length, the load beam comprising a laminate material (as shown in FIG. 6B, for instance), the laminate material having a bottom layer (42), a top layer (46), and a core layer (53 and/or 48) positioned between the top and bottom layers, the load beam further comprising a trench (between each 52) formed in the laminate material and extending along at least a portion of the length of the load beam; and an interconnect circuit (47) mounted to the load beam in at least a portion of the trench (as shown in FIGS. 6A and 6B, for instance) [as per claim 12]; wherein the load beam is secured to the base plate at the bottom layer of the laminate material (as shown in FIG. 6A,

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for instance) [as per claim 13]; wherein the interconnect circuit includes a first portion and a second portion (as shown in FIG. 6A, for instance), and the load beam further comprises an exposed primary surface and a leeward edge (as shown in FIG. 6A, for instance), the first portion being mounted in the trench (as shown in FIG. 6A, for instance), and the second portion extending along the leeward edge of the load beam (as shown in FIG. 6A, for instance) [as per claim 15]; wherein the top layer comprises steel (lines 44-46 in column 5, for instance), the core layer comprises a polymer material (lines 21-24 and 28-30 in column 5, for instance), and the top layer comprises steel (lines 44-46 in column 5, for instance) [as per claim 16]; wherein the load beam includes a first end (adjacent 43) supporting the head, a second end (adjacent 45) adjacent the base plate, and a bend section (between 43 and 45) between the first and second ends, and the trench extends from the second end to the bend section (as shown in FIG. 6A, for instance) [as per claim 17]; wherein the interconnect circuit is a flex-on-suspension circuit (as shown in FIG. 6A, for instance) [as per claim 18]; and wherein the load beam further comprises a boss aperture (45a) and the trench extends around the boss aperture (as shown in FIG. 6A, for instance) [as per claim 19].

With respect to claims 26-27, 30, and 32-33, Endo teaches a suspension assembly (includes 41, for instance) comprising a base plate (50); a load beam (41) mounted to the base plate and having a length, the load beam comprising a laminate material (as shown in FIG. 6B, for instance), the laminate material having a bottom layer (42), a top layer (46), and a core layer (48) positioned

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between the top and bottom layers (as shown in FIG. 6B, for instance); and an interconnect circuit (47) mounted between at least a portion of the bottom layer and core layer (as shown in FIG. 6B, for instance) [as per claim 26]; wherein the load beam is secured to the base plate at the bottom layer of the laminate material (as shown in FIG. 6A, for instance) [as per claim 27]; wherein the top layer comprises steel (lines 44-46 in column 5, for instance), the core layer comprises a polymer material (lines 28-30 in column 5, for instance), and the top layer comprises steel (lines 44-46 in column 5, for instance) [as per claim 30]; wherein the interconnect circuit is a flex-on-suspension circuit (as shown in FIG. 6A, for instance) [as per claim 32]; and wherein the load beam further comprises a boss aperture (45a) [as per claim 33].

10. Claims 1, 3-4, 7, 9, 11-12, 15-17, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Arya et al. (US 6,785,094).

With respect to claims 1 and 3-4, Arya teaches an apparatus comprising a load beam (100); a trench arrangement (118) on the load beam; and a circuit (114) housed within the trench arrangement (as shown in FIG. 9, for instance) [as per claim 1]; wherein the load beam is made from a laminate material (30) [as per claim 3]; and wherein the laminate material includes a bottom steel layer (32), a core polyimide layer (34), and a top steel layer (36) [as per claim 4].

With respect to claims 7, 9, and 11, Arya teaches a disc drive (2) comprising a rotating disc (10) having an inner and outer diameter (as shown in FIGS. 1-3, for instance); a suspension assembly (includes 100, for instance) for

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supporting a head (22) over the disc, the suspension assembly having a load beam (100) comprising a laminate material (30); a trench arrangement (includes 118, for instance) formed in the load beam; and a circuit (114) housed within the trench arrangement (as shown in FIG. 9, for instance) [as per claim 7]; wherein the laminate material includes a bottom steel layer (32), a middle polyimide layer (34), and a top steel layer (36) [as per claim 9]; and wherein the load beam comprises a gimbal portion (120), a bend section (108), and a base portion (102), the gimbal portion supporting the head and the bend section being positioned between the base portion and the gimbal portion (as shown in FIG. 8, for instance), and the trench arrangement includes a trench (118) that extends from the bend section and through at least a part of the base portion (as shown in FIGS. 8-9, for instance) [as per claim 11].

With respect to claims 12, 15-17, and 19, Arya teaches a suspension assembly (includes 100, for instance) comprising a base plate (16); a load beam (18/100) mounted to the base plate and having a length, the load beam comprising a laminate material (30), the laminate material having a bottom layer (32), a top layer (36), and a core layer (34) positioned between the top and bottom layers, the load beam further comprising a trench (118) formed in the laminate material and extending along at least a portion of the length of the load beam (as shown in FIGS. 8-9, for instance); and an interconnect circuit (114) mounted to the load beam in at least a portion of the trench (as shown in FIG. 9, for instance) [as per claim 12]; wherein the interconnect circuit includes a first portion and a second portion (as shown in FIG. 9, for instance), and the load

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beam further comprises an exposed primary surface and a leeward edge (as shown in FIG. 9, for instance), the first portion being mounted in the trench (as shown in FIGS. 8-9, for instance), and the second portion extending along the leeward edge of the load beam (as shown in FIGS. 9, for instance) [as per claim 15]; wherein the top layer comprises steel (lines 61-64 in column 5, for instance), the core layer comprises a polymer material (lines 64-67 in column 5, for instance), and the top layer comprises steel (lines 1-2 in column 6, for instance) [as per claim 16]; wherein the load beam includes a first end (120) supporting the head, a second end (102) adjacent the base plate, and a bend section (108) between the first and second ends, and the trench extends from the second end to the bend section (as shown in FIGS. 8-9, for instance) [as per claim 17]; and wherein the load beam further comprises a boss aperture (104) and the trench extends around the boss aperture (as shown in FIGS. 8-9, for instance) [as per claim 19].

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any

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inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 5-6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al. (US 5,696,651).

Endo teaches the disc drive/apparatus as detailed in paragraph 9, supra. Endo, however, remains silent as the bottom steel layer thickness being in the range of "about 20 to 75 μm ," the core polyimide layer thickness being in the range of "about 10 to 125 μm ," and the top steel layer thickness being in the range of "about 20 to 75 μm " as per claims 5 and 10 and the bottom steel layer thickness being "about 30 μm ," the core polyimide layer thickness being "about 75 μm ," and the top steel layer thickness being "about 30 μm " as per claim 6.

Official notice is taken of the fact that it is notoriously old and well known in the disc drive/apparatus art to modify the parameters of disc drive/apparatus components during the course of routine optimization/experimentation. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the bottom steel layer thickness of Endo be in the range of about 20 to 75 μm , the core polyimide layer thickness of Endo be in the range of about 10 to 125 μm , and the top steel layer thickness of Endo be in the range of about 20 to 75 μm and further to have had the bottom steel layer thickness of Endo be about 30 μm , the core polyimide layer thickness of Endo be

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about 75 μm , and the top steel layer thickness of Endo be about 30 μm . The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the bottom steel layer thickness of Endo be in the range of about 20 to 75 μm , the core polyimide layer thickness of Endo be in the range of about 10 to 125 μm , and the top steel layer thickness of Endo be in the range of about 20 to 75 μm and further to have had the bottom steel layer thickness of Endo be about 30 μm , the core polyimide layer thickness of Endo be about 75 μm , and the top steel layer thickness of Endo be about 30 μm since such ranges, absent any criticality (i.e., unobvious and/or unexpected result(s)), are generally achievable through routine optimization/experimentation, and since discovering the optimum or workable ranges, where the general conditions of a claim are disclosed in the prior art, involves only routine skill in the art, *In re Aller*, 105 USPQ 233 (CCPA 1955). Moreover, in the absence of any criticality (i.e., unobvious and/or unexpected result(s)), the parameters set forth above would have been obvious to a person having ordinary skill in the art at the time the invention was made, *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

14. Claims 5-6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arya et al. (US 6,785,094).

Arya teaches the disc drive/apparatus as detailed in paragraph 10, *supra*. Arya, however, remains silent as the bottom steel layer thickness being in the range of "about 20 to 75 μm ," the core polyimide layer thickness being in the

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range of "about 10 to 125 μm ," and the top steel layer thickness being in the range of "about 20 to 75 μm " as per claims 5 and 10 and the bottom steel layer thickness being "about 30 μm ," the core polyimide layer thickness being "about 75 μm ," and the top steel layer thickness being "about 30 μm " as per claim 6.

Official notice is taken of the fact that it is notoriously old and well known in the disc drive/apparatus art to modify the parameters of disc drive/apparatus components during the course of routine optimization/experimentation. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the bottom steel layer thickness of Arya be in the range of about 20 to 75 μm , the core polyimide layer thickness of Arya be in the range of about 10 to 125 μm , and the top steel layer thickness of Arya be in the range of about 20 to 75 μm and further to have had the bottom steel layer thickness of Arya be about 30 μm , the core polyimide layer thickness of Arya be about 75 μm , and the top steel layer thickness of Arya be about 30 μm . The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the bottom steel layer thickness of Arya be in the range of about 20 to 75 μm , the core polyimide layer thickness of Arya be in the range of about 10 to 125 μm , and the top steel layer thickness of Arya be in the range of about 20 to 75 μm and further to have had the bottom steel layer thickness of Arya be about 30 μm , the core polyimide layer thickness of Arya be about 75 μm , and the top steel layer thickness of Arya be about 30 μm since such ranges, absent any criticality (i.e., unobvious and/or unexpected result(s)), are generally achievable through routine

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optimization/experimentation, and since discovering the optimum or workable ranges, where the general conditions of a claim are disclosed in the prior art, involves only routine skill in the art. See *In re Aller*, supra. Moreover, in the absence of any criticality (i.e., unobvious and/or unexpected result(s)), the parameters set forth above would have been obvious to a person having ordinary skill in the art at the time the invention was made. See *In re Woodruff*, supra.

Pertinent Prior Art

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Oberg (US 4,819,094), Hiraoka et al. (US 5,612,840), Palmer (US 5,680,274), Goss (US 5,731,931), and Khan et al. (US 6,288,877), which each individually teaches a circuit housed within a trench arrangement on a load beam; and Blaeser et al. (US 5,187,625), which teaches a trench arrangement provided on a load beam made of a laminate material.

Allowable Subject Matter

16. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 28-29 and 31 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.


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Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Craig A. Renner
Primary Examiner
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CAR